

Work Order ID 160478

Tuesday, May 02, 2017 10:55:51 AM

160478

Page 1

Item ID: 646.9710 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Body
Start Date: 5/4/2017 Start Qty: 10.00 *10* Cust Item ID:
Required Date: 5/31/2017 Req'd Qty: 10.00 *10* Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: ~~MAY 02 2017~~ Tooling: _____ Date: _____ Run Start *NR1*
QC: DAS Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*
21
9-89

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.9700	D2								

100 0.00
100 BAND SAW 9 0 DAS 20 17-05-29
Bandsaw Memo 0.08 9-89
Jeaspa Bandsaw Cut Blank at 7.425"

110 2.29
110 HAAS CNC VERTICAL MACHINING #1 9 0 DAS 17-05-30
HAAS I Memo 2.62 20 17-05-29
HAAS CNC vertical machine #1 1-Machine per folio FB130
DWG REV: D
FOLIO REV: AA
9-89

2- deburr and break all sharp edges

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS. <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																					
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																										
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																										
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																										
Large Fab ☐	Composite ☐	Supplier ☐																																																											
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																						
Description Work Order Deviation				Disposition																																																									
Root Cause <table style="width:100%; border: none;"> <tr><td>Environment ☐</td><td>No Re-verification ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="width:33%;">Pressure/Forced ☐</td> <td style="width:33%;">Temperature/Cure ☐</td> <td style="width:33%;">Power Loss/Surge ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Crushing ☐	Countersink ☐	Off-set ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐
Environment ☐	No Re-verification ☐																																																												
Design ☐	Operator ☐																																																												
Doc/Data ☐	Offset/Setup ☐																																																												
Equip/Tooling ☐	Supplier ☐																																																												
Handling/Pre ☐	Training ☐																																																												
Material ☐	Use for Testing ☐																																																												
Internal Transport ☐	Poor Information ☐																																																												
Tribal Knowledge ☐	Rushing ☐																																																												
LOA ☐	Product Improvement ☐																																																												
Substation ☐	Process Improvement ☐																																																												
Past Expiry Date ☐	Manufacturing Process ☐																																																												
Misidentified ☐	Past Due ☐																																																												
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐																																																											
Bending ☐	Set-up ☐	Folio/Program ☐																																																											
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐																																																											
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐																																																											
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐																																																											
Cuffs ☐	Contamination ☐	Out of Sequence ☐																																																											
Crushing ☐	Countersink ☐	Off-set ☐																																																											
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐																																																											
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐																																																											
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐																																																											
		OTHER : ☐																																																											

Work Order ID 160478

Tuesday, May 02, 2017 10:55:51 AM

160478

Page 2

Item ID: 646.9710 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Body
Start Date: 5/4/2017 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 5/31/2017 Req'd Qty: 10.00 ***10*** Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.10				9	0		DAS 20 17-05-29 9-89
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.20				9	0		DAS 44 17-05-31 9-89
140 *140* Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1 Memo Issue P/O to ATG : <u>36731</u> 1- Black Anodize as per Dwg 646.9700 2- PRIME AS PER DWG, SEE NOTE #2 Certification of Conformity is required	0.00 1,800.00				9		JUN 16 2017	DAS 13 9-89

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐														
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐														
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐														
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐														
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐														
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐														
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐														
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐														
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐														
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐														
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :																					
Misidentified	☐	Past Due	☐																						

Work Order ID 160478

Tuesday, May 02, 2017 10:55:51 AM

160478

Page 3

Item ID: 646.9710 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Body
Start Date: 5/4/2017 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 5/31/2017 Req'd Qty: 10.00 ***10*** Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150	Receive & Inspect for Damage & Mat'l Certs	0.00							
-----	--	------	--	--	--	--	--	--	--

150

Packaging	Memo	0.20							
-----------	------	------	--	--	--	--	--	--	--

Packaging

9x SOP-7-10

155	QC5- Inspect part completeness to step on W/O	0.00							
-----	---	------	--	--	--	--	--	--	--

155

QC	Memo	0.20							
----	------	------	--	--	--	--	--	--	--

Quality Control

2.0 mils thickness primer

DAS
38
9-89

JUL 10 2017

180	Identify as per dwg & Stock Location. <u>Cct 012</u>	0.00							
-----	--	------	--	--	--	--	--	--	--

180

Packaging	Memo	0.10							
-----------	------	------	--	--	--	--	--	--	--

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

DAS
6
8-89

JUL 11, 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

Work Order ID 160478

Tuesday, May 02, 2017 10:55:51 AM

160478

Page 4

Item ID: 646.9710 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Body
Start Date: 5/4/2017 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 5/31/2017 Req'd Qty: 10.00 ***10*** Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	1.00							
Quality Control									

17/7/12 *[Signature]*
U 67.07.11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐	Positioned Wrong ☐																
Design ☐		Operator ☐		Bending ☐		Set-up ☐		Folio/Program ☐	Outside Dimensions ☐																
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐		Grain ☐	Over/Under tolerance ☐																
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐		Weld ☐	Part Incorrect ☐																
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐	Part Lost/Missing ☐																
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐		Out of Sequence ☐	Part Moved ☐																
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐		Off-set ☐	Drawing ☐																
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐	Finish ☐																
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐	Misread ☐																
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐	Turning Sequence ☐																
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____																					
Misidentified ☐		Past Due ☐																							

Picklist Print

Tuesday, May 02, 2017 10:55:51 AM

Page 1

Work Order ID: 160478

160478

Parent Item: 646.9710

646.9710

Parent Item Name: Body

Start Date: 5/4/2017

Required Date: 5/31/2017

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A NEW ISSUE 12/10/04 JFS VERIFY BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X1.000		Purchased		No		100	f	5.9380	0.62	6.526316			
M7075T6B5.000X1.000									**	<u>5.938'</u>		DAS 20 9-89	17-05-29
7075-T6 BAR 5.000" X 1.000"													
M7075T6S1.000						<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>				
						MAT005		5.938					
						M137300		5.938		<u>5.938'</u>			

UP 7/5/4 PER DLG

Please see attach Pablo's Email
for material approval.

17.05.05

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER :						
Misidentified ☐	☐	Past Due ☐							

DART AEROSPACE LTD		Work Order: 160478
Description: Body		Part Number: 646.9710
Inspection Dwg: 646.9700 Rev: D2		Page 1 of 2

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.13 x 45°	+/-0.010 x 0.5°	.130 x 45°	✓		SLIO	Vern
1.500	+/-0.005	1.502	✓			
0.352	+0.005/-0.000	.353	✓			
0.10 x 45°	+/-0.010 x 0.5°	.095 x 45°	✓			
0.875	+/-0.005	.873	✓			
0.700	+/-0.005	.700	✓		↓	
5.500	+/-0.005	5.500	✓			
0.660	+/-0.005	.660	✓		↓	
0.660	+/-0.005	.660	✓			
0.278	+/-0.002	.279	✓		Height gauge	
0.339	+/-0.002	.339	✓			
0.352	+/-0.002	.352	✓			
0.372	+/-0.002	.372	✓			
1.067	+/-0.002	1.0675	✓			
2.608	+/-0.002	2.608	✓			
2.750	+/-0.002	2.750	✓			
2.892	+/-0.002	2.892	✓			
3.348	+/-0.002	3.348	✓			
3.597	+/-0.002	3.598	✓			
3.847	+/-0.002	3.847	✓			
0.351	+/-0.002	.351	✓			
0.544	+/-0.002	.5435	✓			
2.195	+/-0.002	2.195	✓			
2.304	+/-0.002	2.3035	✓			
2.451	+/-0.002	2.451	✓			
2.639	+/-0.002	2.639	✓			
3.395	+/-0.002	3.395	✓			
3.495	+/-0.002	3.495	✓			
4.551	+/-0.002	4.551	✓			
4.595	+/-0.002	4.596	✓			
4.687	+/-0.002	4.688	✓			
4.734	+/-0.002	4.733	✓		↓	
6.651	+/-0.002	6.652	✓			
Ø0.201	+0.005/-0.001	.202	✓		SLIO	Vern



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05360

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED BY J. BECKER

DATE: 03/24/16

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

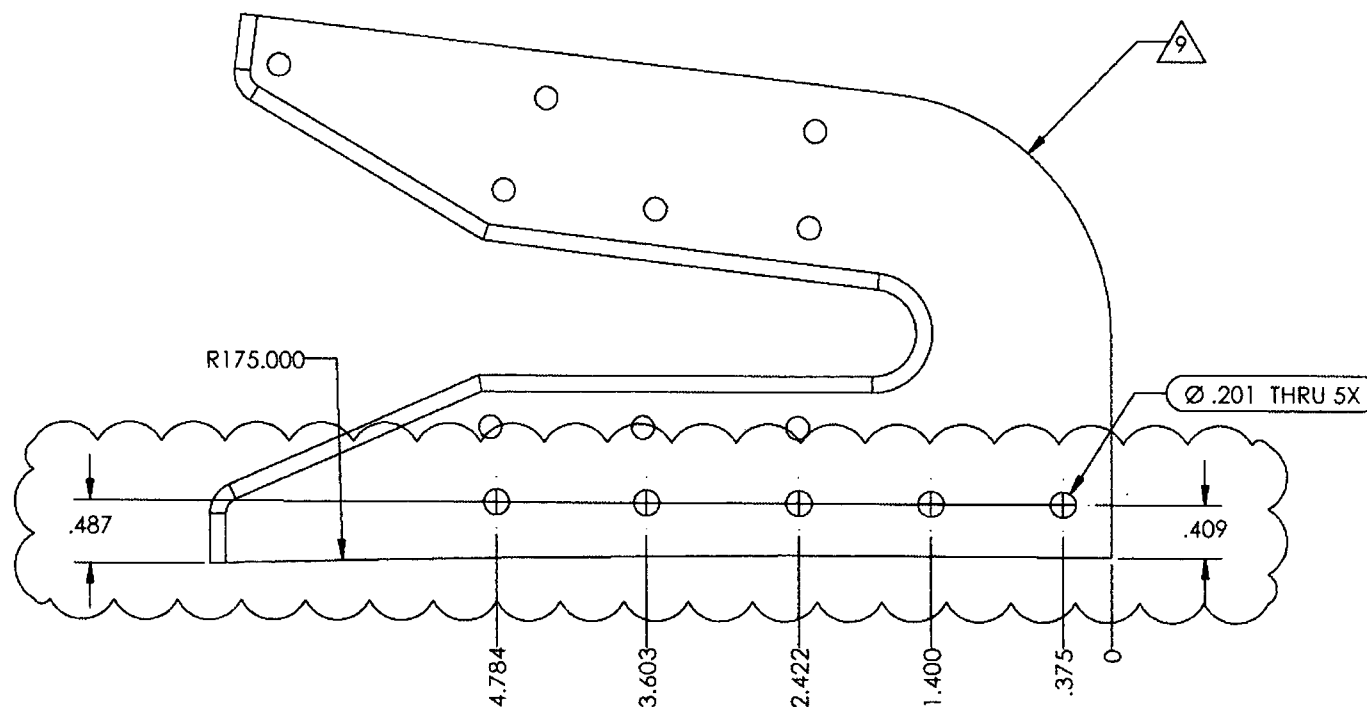
EFF. CURRENT ORDER

REASON: REVISED DIMENSIONS

ECR: N/A

ACTION ITEM:
1.

SHEET 7, ZONE C3 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *160478 MWS*
170502

PRINTED COPY OF THIS DOCUMENT IS FOR REFERENCE ONLY AND IS UNCONTROLLED

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05345

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED BY

J. GARDINER

DATE: 03/15/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR.

MFG

QC

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):

A-ADD
R-REVISE

C-CREATE
D-DELETE

REASON: REVISED NOTES

ECR:

N/A

ACTION ITEM:

1.

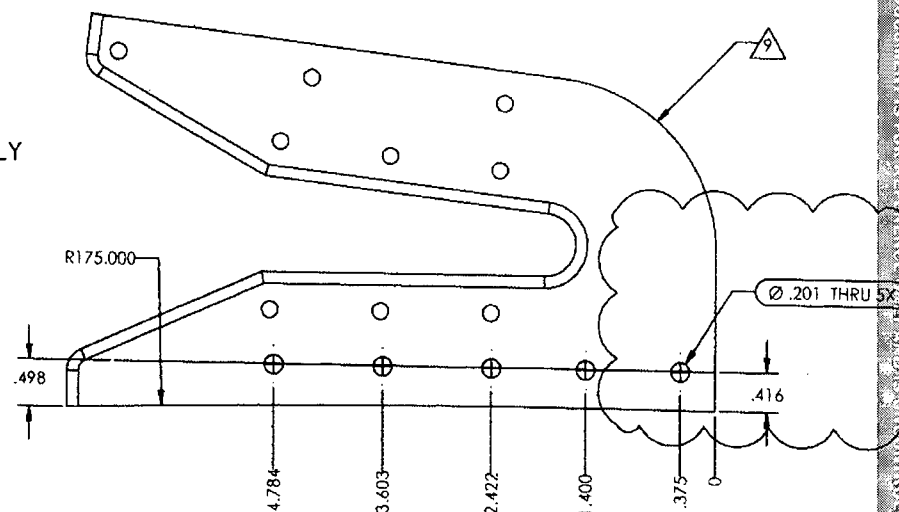
SHEET 1, ZONE A6 IS:

NOTES:

IS

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 2.1, 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

SHEET 7, ZONE C5 IS:



DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.

PRINTED COPY OF THIS DOCUMENT IS FOR REFERENCE ONLY AND IS UNCONTROLLED

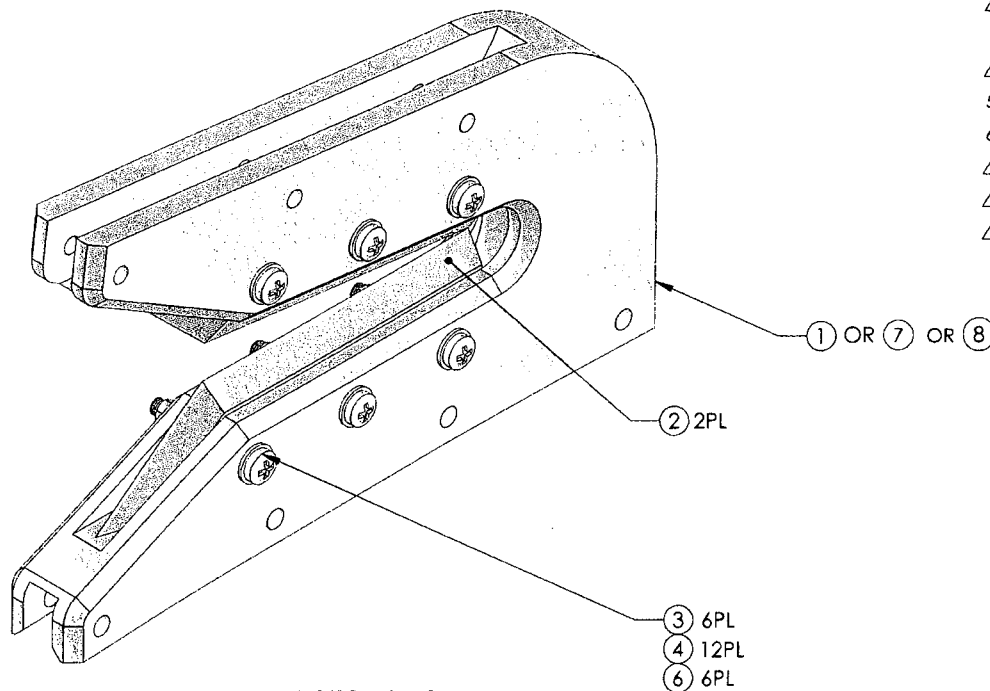
8

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION - PR2		N/C
HC	INITIAL RELEASE	03/29/09	P. BRAVO
A	INCORPORATED ECN 02744, 03838, 03912	06/06/13	P. BRAVO
B	INCORPORATED ECN 05167	07/03/13	P. BRAVO
C	INCORPORATED ECN 04039	08/09/13	P. BRAVO
D	INCORPORATED ECN 03329	07/28/16	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3: 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

SHEET /
PLATE



646.9701 SHOWN
646.9702 & 646.9703 TYP

UNINCORPORATED ECN(S)

05345, 05360,

1			8	646.9713	BODY			
	1		7	646.9712	BODY			
6	6	6	6	601.1541	LOCKNUT	MS21047LGB		
A/R	A/R	A/R	5	601.2045	RTV, LOCTITE 598			
12	12	12	4	601.2764	WASHER	MS11147HMS2P		
6	6	6	3	601.2765	SCREW	MS27039-0819		
2	2	2	2	646.9711	BLADE			
			1	646.9710	BODY			
X				646.9703	CUTTER SUB ASSY			
	X			646.9702	CUTTER SUB ASSY			
		X		646.9701	CUTTER SUB ASSY			
5703	5702	5701	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.	

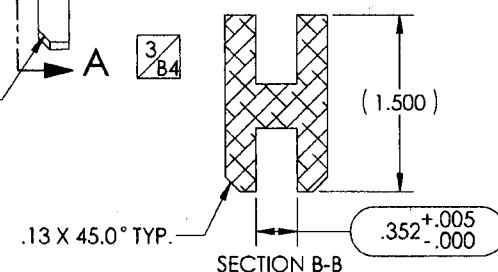
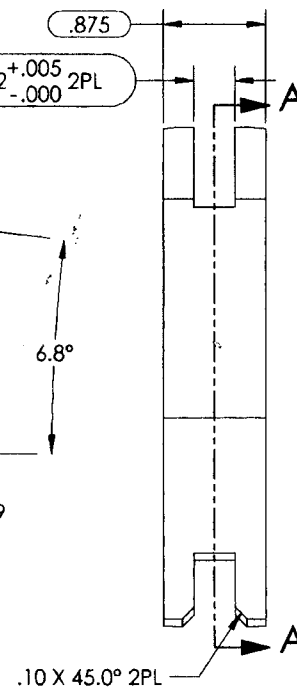
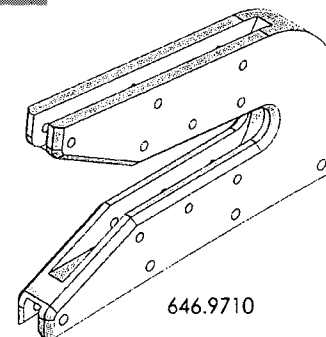
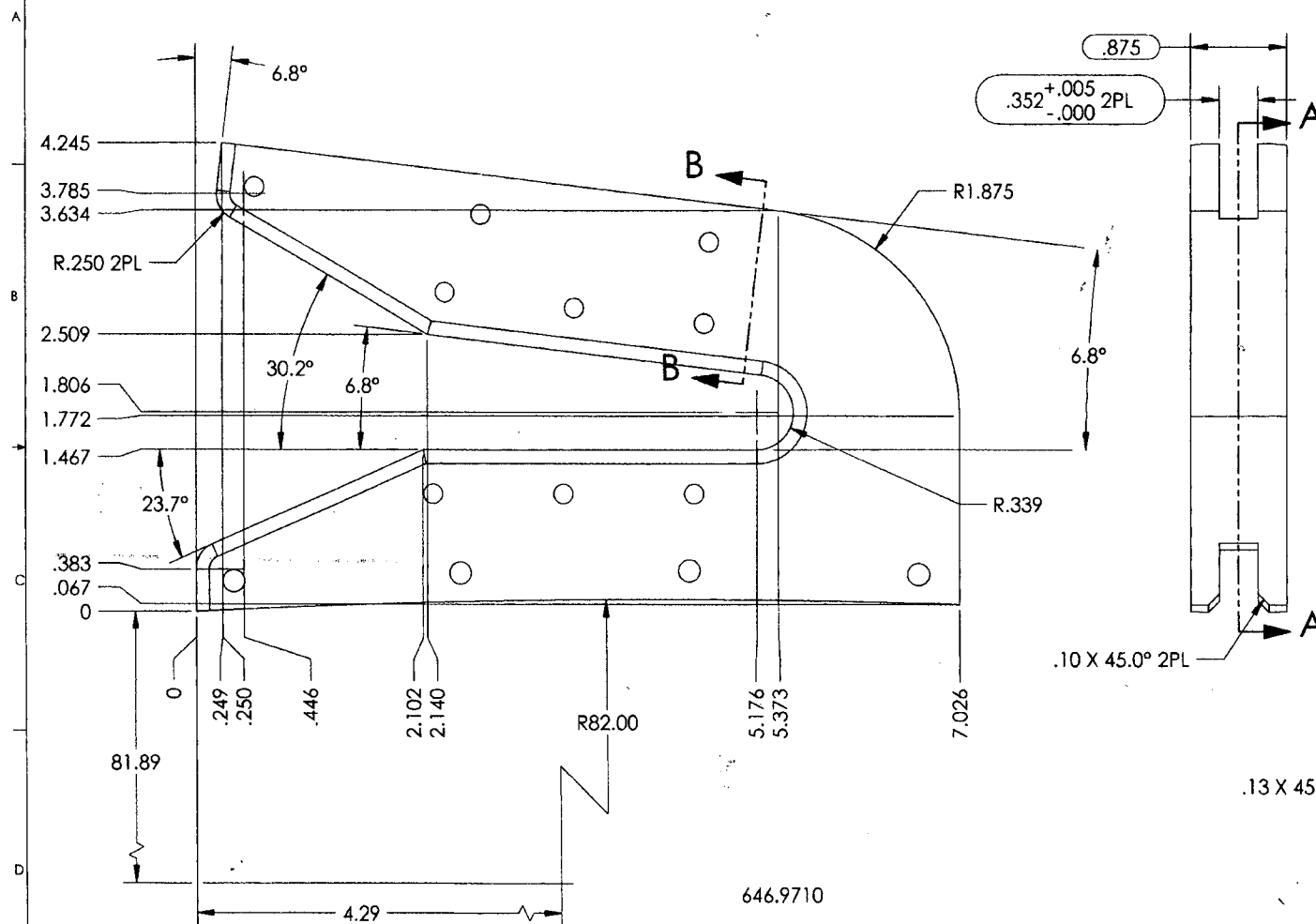
PARTS LIST			
QTY			
NEXT ASSY (S)	ORIGINAL DATE (MM-DD-YY)	85-28-08	
646.9600	DRAWN BY	CHITZER	
	P. POLANO	P. BRAVO	
	DRAWING APPROVAL		
	P. BRAVO		
	DATE		
	CONTRACT NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
SRT	CAGE CODE	DWG. NO.	REV.
B	07M26	646.9700	D
SCALE: NONE		SHEET 1 OF 7	

DART 3030 ENTERPRISE CT.,
SUITE A
VISTA, CA. 92081
(760)-724-5300
APICAL INDUSTRIES, INC.
DBA DART AEROSPACE

CUTTER SUB ASSEMBLY

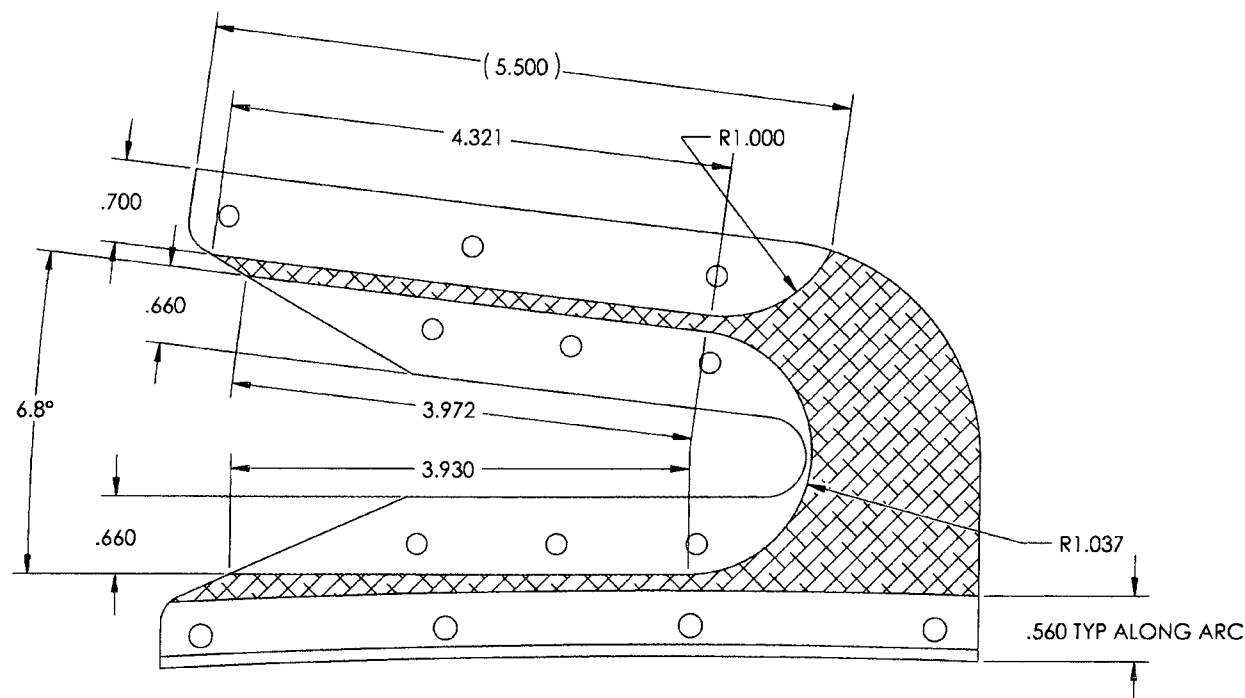
PRINTED COPY OF THIS DOCUMENT IS FOR REFERENCE ONLY AND IS UNCONTROLLED

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



ORIGINAL DATE		3030 ENTERPRISE CT.,	
DMD DATE		SUITE A	
DRAWN BY	CHECKED	VISTA, CA. 92081	
R. ROSAND	P. BRAVO	(760) 724-5300	
DRAWING APPROVAL		APICAL INDUSTRIES INC.	
R. BRAVO		DBA DART AEROSPACE	
CONTRACT NO.		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			
TOLERANCES ARE:			
2 PLACE DECIMALS ±.01			
3 PLACE DECIMALS ±.005			
ANGLES ±.5°			
REV.	CAGE CODE	DWG. NO.	REV.
B	07M26	646.9700	D
SCALE NONE		SHEET 2 OF 7	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DDA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DDA DART AEROSPACE IS PROHIBITED.

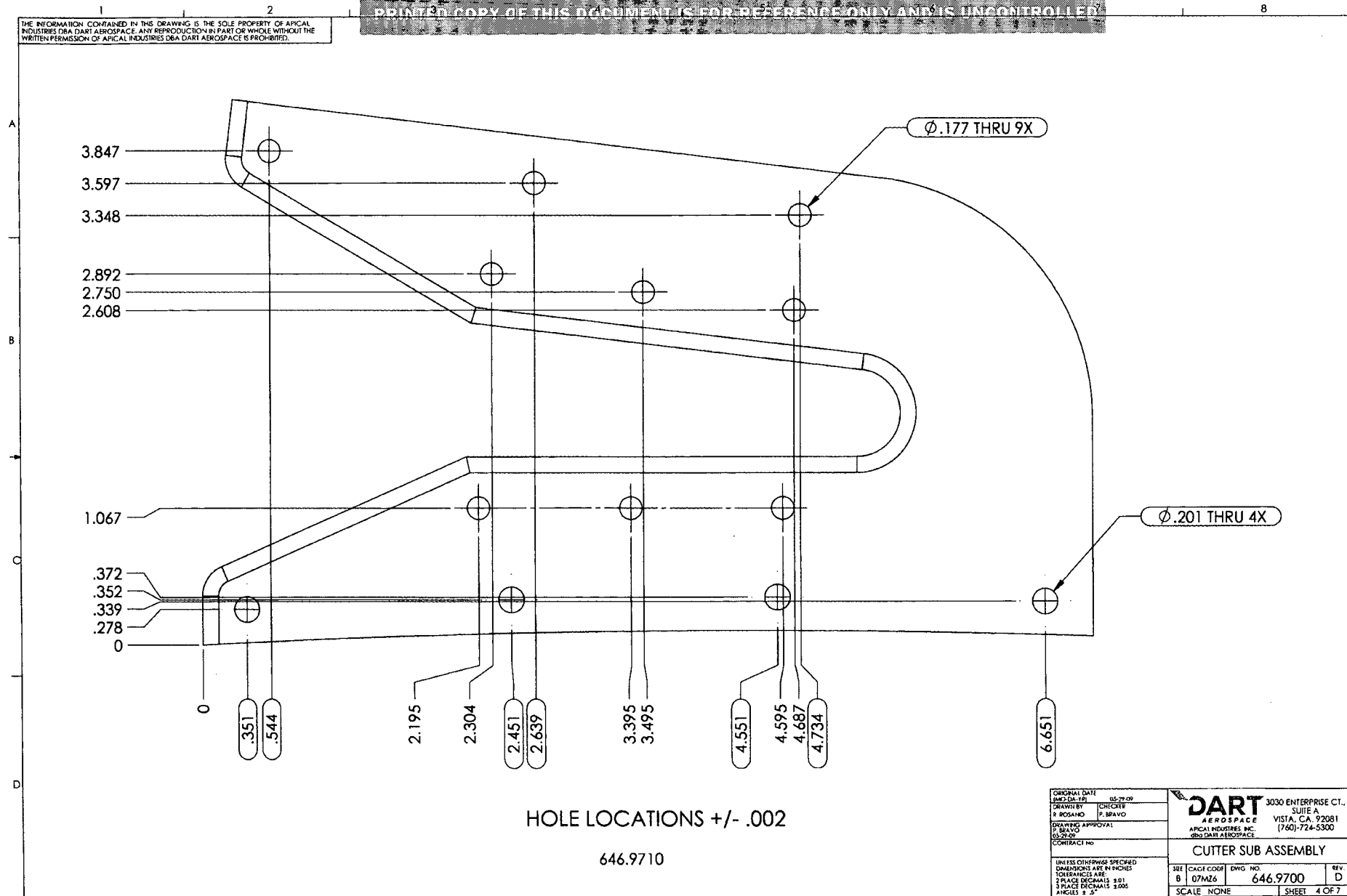


SECTION A-A 2/C6

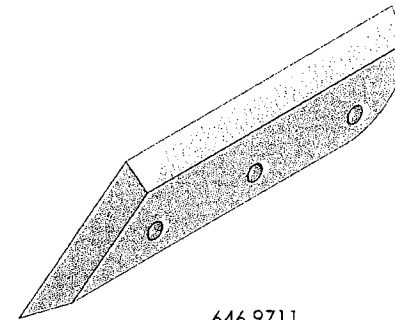
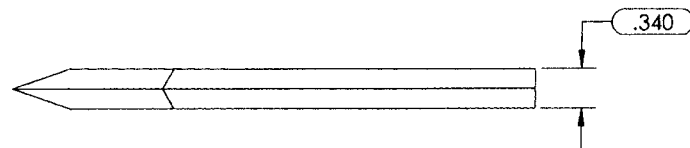
646.9710

ORIGINAL DATE (MM-DD-YY)		05-29-00	 DART AEROSPACE APICAL INDUSTRIES INC. 3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300 dda DART AEROSPACE
DRAWN BY		CHICEST	
R. ROSANO		P. BRAVO	
DRAWING APPROVAL		P. BRAVO	
DATE		05-29-00	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 7 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°			
SIZE	CAGE CODE	DWG. NO.	REV.
B	07M26	646.9700	D
SCALE NONE		SHEET 3 OF 7	

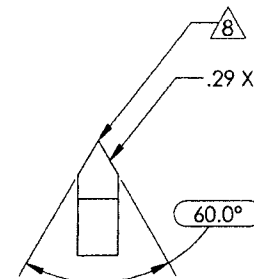
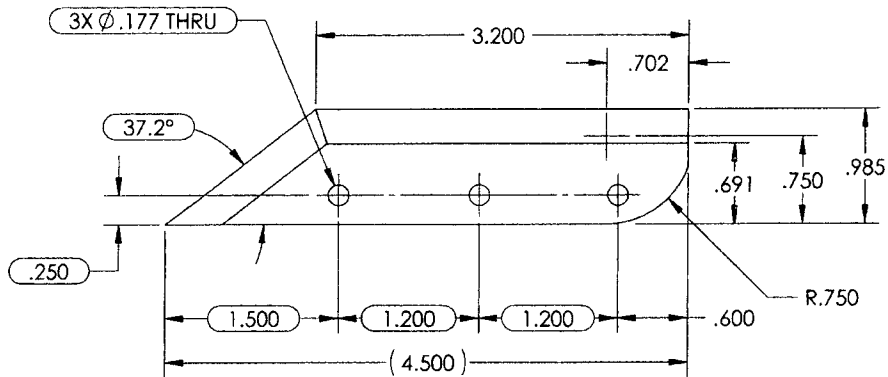
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



646.9711



646.9711

ORIGINAL DATE 10-01-00		DESIGNED BY R. ROSANO		CHECKED BY P. BRAVO	
DRAWING APPROVAL P. BRAVO		DATE 05-21-00		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°					
SHEET B		CADD CODE 07M26		DWG. NO. 646.9700	
SCALE NONE		REV. D		SHEET 5 OF 7	

DART 3030 ENTERPRISE CT., SUITE A
AEROSPACE VISTA, CA 92081
APICAL INDUSTRIES INC. (760)-724-5300
DBA DART AEROSPACE

CUTTER SUB ASSEMBLY

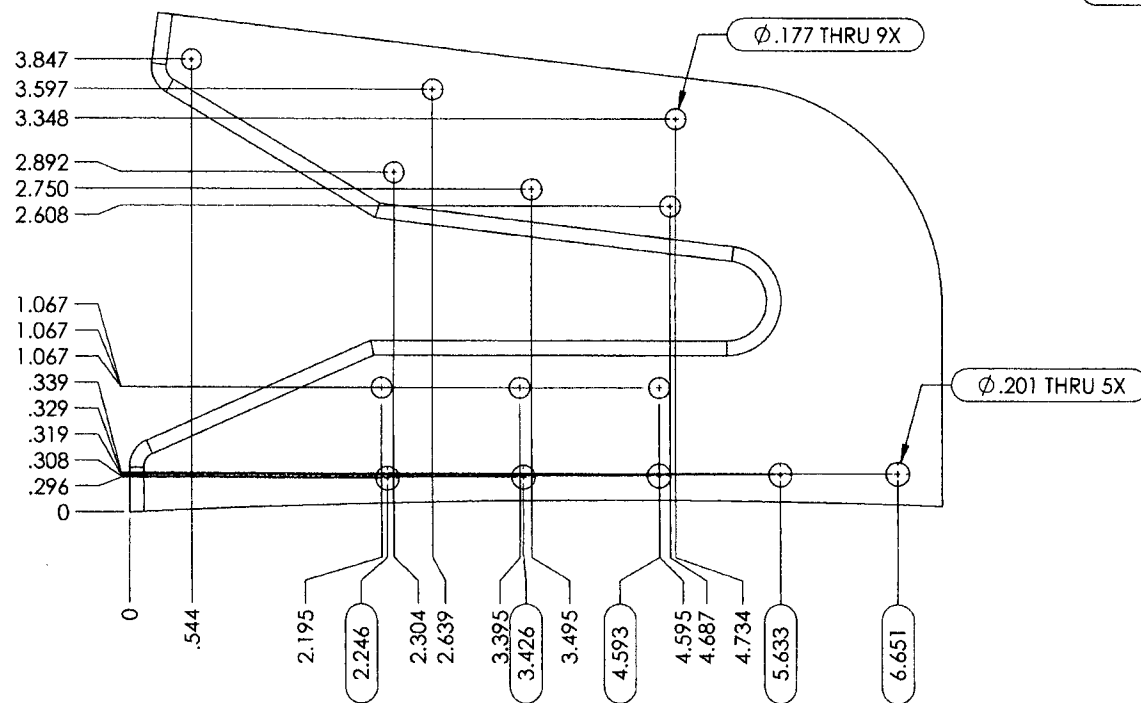
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.

A

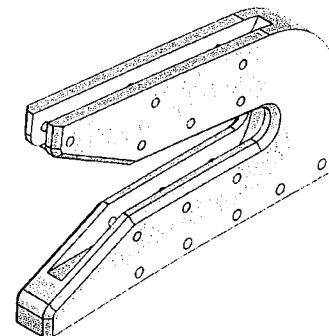
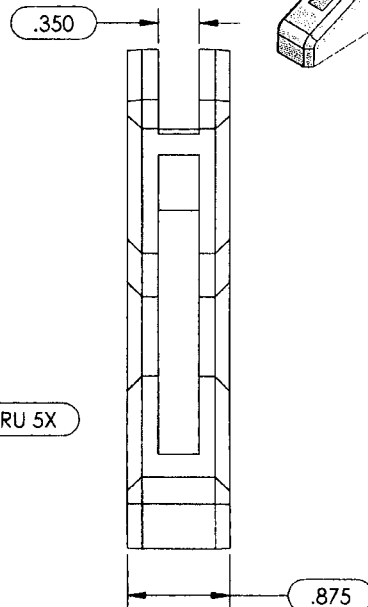
B

C

D



646.9712



646.9712 9

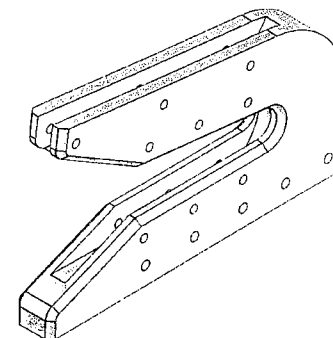
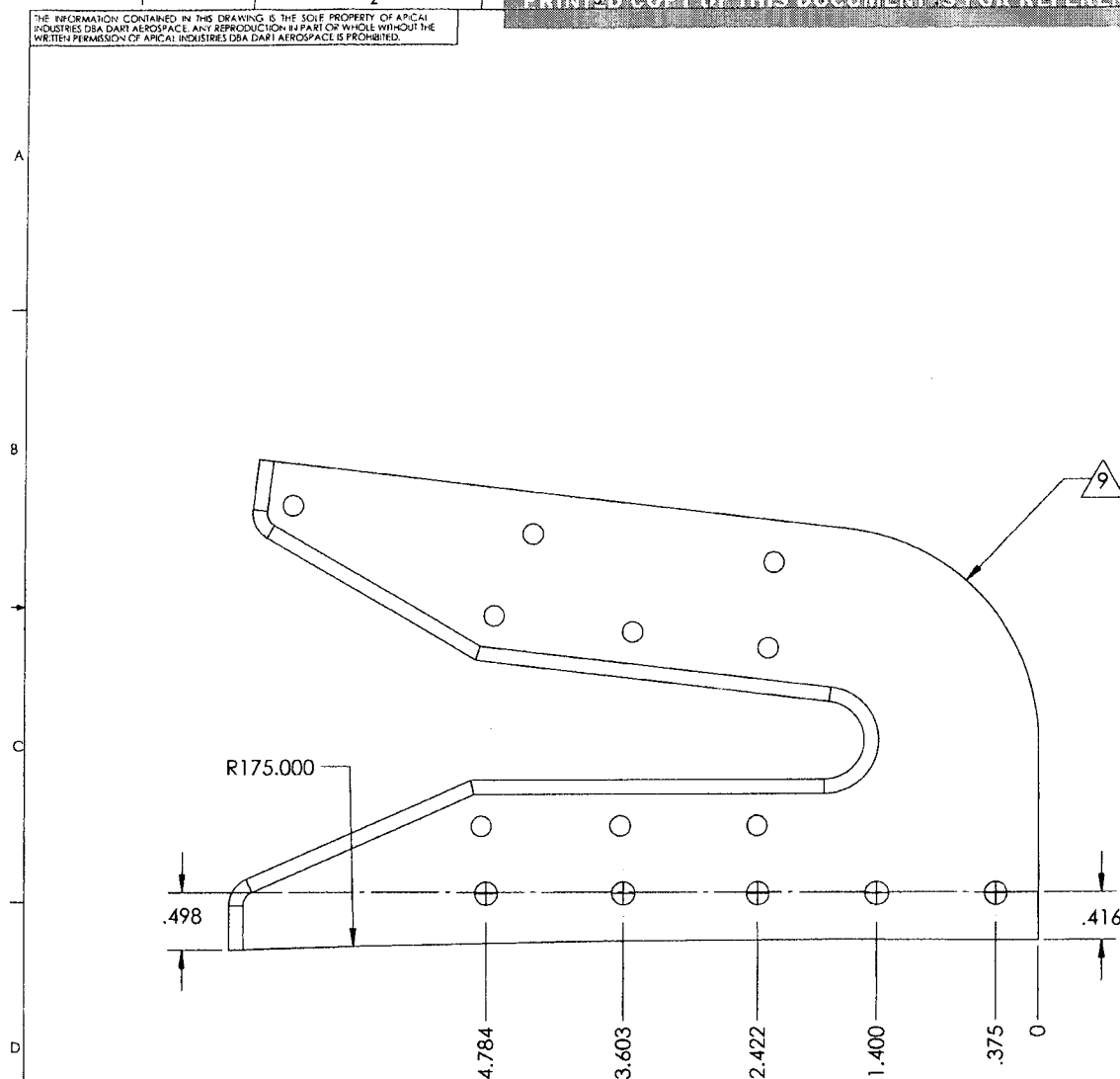
ORIGINAL DATE JMD-DA-761	02-29-06	 DART AEROSPACE AIRCRAFT INDUSTRIES INC. 800 DART AIRCRAFT	3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760) 724-5300
DRAWN BY R. ROSANO	P. BRAVO		
DRAWING APPROVAL P. BRAVO	05-29-06		
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.001 ANGLES ±.5°			
CUTTER SUB ASSEMBLY			
SIZE B	CAGE CODE 07M76	DWG. NO. 646.9700	REV. D
SCALE NONE			SHEET 6 OF 7

DART 3030 ENTERPRISE CT., SUITE A
AEROSPACE VISTA, CA 92081
APICAL INDUSTRIES INC.
(760) 724-5300
DBA DART AEROSPACE

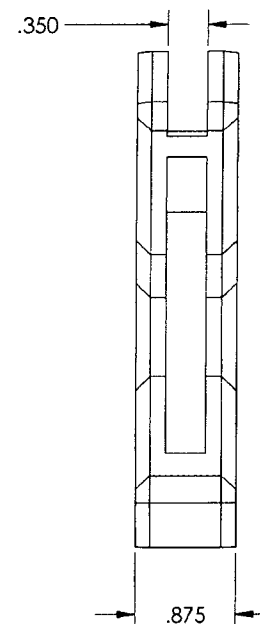
CUTTER SUB ASSEMBLY

PRINTED COPY OF THIS DOCUMENT IS FOR REFERENCE ONLY AND IS UNCONTROLLED

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APCAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APCAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



646.9713



ORIGINAL DATE 10/01/00		05-22-09	
DRAWN BY R. ROSANO		CHECKED P. BRAVO	
DRAWING APPROVAL P. BRAVO		05-22-09	
CONTRACT NO.			
DART 3030 ENTERPRISE CT., SUITE A AEROSPACE VISTA, CA. 92081 APCAL INDUSTRIES INC. (760)-724-5300 DBA DART AEROSPACE			
CUTTER SUB ASSEMBLY			
SIZE B	CAGE CODE 071426	DWG. NO. 646.9700	REV. D
SCALE NONE			SHEET 7 OF 7

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ±.01
3 PLACE DECIMALS ±.005
ANGLES ±.5°

David Duval

From: Chantal Lavoie
Sent: May-05-17 1:53 PM
To: David Duval
Subject: FW: 17814
Attachments: M7075T6B-RevB.pdf; 646.3000 NC1 Lower Cutter Assy [ECN 02195].pdf; D4842-RevB.pdf

From: Chantal Lavoie
Sent: Tuesday, May 02, 2017 11:57 AM
To: 'Eric Downing' <edowning@dartaero.com>
Subject: FW: 17814

Hi Eric,
Check this e-mail, for 7075-t6 bar or cut from plate.
Thanks
Chantal

From: Chantal Lavoie
Sent: Tuesday, May 10, 2016 1:20 PM
To: Chris Provencal <cprovencal@dartaero.com>
Cc: 'Eric Downing' <edowning@dartaero.com>; Linda Lacelle <llacelle@dartaero.com>; Patrick Smith <psmith@dartaero.com>
Subject: FW: 17814

Hi Chris,
I found another problem when ordering material, see attached for mill spec's 7075-T6.
Material spec's call out 7075-T6/T651 etc..... But with no indication of AMS or QQ-A accepting T651.
Please advise if you can sign deviation would need to order some material.

Note: this material is used for cable cutter part if you look at dwg from Apical (646.3000) they call out 7075-T651 under AMS-QQ-A-250/12, see attached for dwg files.

Dart dwg (D4842) only call out 7075-t6 see attached for dwg files. 95% of 7075-T6 material will be under 7075-T651/AMS-QQ-A-250/12.

Thanks
Chantal

From: Linda Lacelle
Sent: Tuesday, May 10, 2016 1:02 PM
To: Chantal Lavoie <clavoie@dartaero.com>
Subject: FW: 17814

From: Pablo Bravo [mailto:pbravo@apicalindustries.com]

Sent: Friday, September 21, 2012 11:08 AM

To: 'Jean-Luc Menard' <jmenard@dartaero.com>; 'Linda Lacelle' <llacelle@dartaero.com>; 'David Shepherd' <dshepherd@dartaero.com>; 'Mike Petsche' <mpetsche@dartaero.com>

Cc: 'Isam El-Kassis' <ielkassis@dartaero.com>; 'Chantal' <clavoie@dartaero.com>; 'Bill Beckett' <bbeckett@dartaero.com>; 'Steve Joseph' <sjoseph@apicalindustries.com>

Subject: RE: 17814

After looking at this more closely, we should be able to use the AMS-QQ-A-250/12 that was originally quoted. No objection on this side to the material change. Let me know what documentation you need to make this happen.

Thanks,

Pablo

From: Jean-Luc Menard [mailto:jmenard@dartaero.com]

Sent: Friday, September 14, 2012 5:30 AM

To: 'Linda Lacelle'; 'David Shepherd'; 'Mike Petsche'

Cc: 'Isam El-Kassis'; 'Chantal'; 'Bill Beckett'; 'Pablo Bravo'; 'Steve Joseph'

Subject: RE: 17814

THE 1.250" x 2.00 " would be used on the rail 647.0200.

JL

From: Linda Lacelle [mailto:llacelle@dartaero.com]

Sent: Friday, September 14, 2012 7:59 AM

To: 'David Shepherd'; 'Mike Petsche'

Cc: 'Isam El-Kassis'; 'JEANLUC MENARD'; 'Chantal'; 'Bill Beckett'; 'Pablo Bravo'; 'Steve Joseph'

Subject: RE: 17814

JL will get the info on what part it is used in, as the boms are not made yet.

LL

From: David Shepherd [mailto:dshepherd@dartaero.com]

Sent: September-14-12 8:12 AM

To: 'Linda Lacelle'; 'Mike Petsche'

Cc: 'Isam El-Kassis'; 'JEANLUC MENARD'; 'Chantal'; 'Bill Beckett'; 'Pablo Bravo'; 'Steve Joseph'

Subject: RE: 17814

Linda,

My understanding is that Pablo Bravo will have to make ALL MRB decisions on the cable cutters since Apical owns the STC.

Therefore, you will need to send an email to Pablo to get a disposition on these types of issues.

What Apical p/n is this for?

PB,

Is the material substitution requested below acceptable?

If not, can you provide guidance on where you were purchasing this material so that Dart purchasing can track it down.

David

From: Linda Lacelle [<mailto:llacelle@dartaero.com>]
Sent: September-13-12 10:23 AM
To: 'Mike Petsche'
Cc: dshepherd@dartaero.com; 'Isam El-Kassis'; 'JEANLUC MENARD'; 'Chantal'
Subject: RE: 17814

Ok,so where do we go from here?

From: Mike Petsche [<mailto:mpetsche@dartaero.com>]
Sent: September-13-12 11:51 AM
To: Linda Lacelle
Cc: <dshepherd@dartaero.com>; Isam El-Kassis; JEANLUC MENARD; Chantal
Subject: Re: 17814

Cable cutters are largely outside of engineering. We are only manufacturing for apical. Using all apical data.

Sent from my iPhone

On 2012-09-13, at 11:40 AM, "Linda Lacelle" <llacelle@dartaero.com> wrote:

Any news on this pls?

From: Linda Lacelle [<mailto:llacelle@dartaero.com>]
Sent: September-11-12 12:57 PM
To: dshepherd@dartaero.com; 'Mike Petsche' (mpetsche@dartaero.com)
Cc: Isam El-Kassis (ielkassis@dartaero.com); JEANLUC MENARD (jmenard@dartaero.com)
Subject: FW: 17814
Importance: High

This is the mat'l for the cable cutters. All 7075 this big is cut from plate. So where do we go from here?

LL

From: Marc Bellavance [<mailto:mbellavance@dartaero.com>]
Sent: September-11-12 12:19 PM
To: 'Chantal Lavoie'
Cc: 'Lacelle, Linda'
Subject: RE: 17814

Chantal,

The mechanical properties of a 1.250" thick plate under AMS-QQ-A-250/11 are below the mechanical properties of a 1.250" thick bar under AMS-QQ-A-225/9 and AMS-QQ-A-200/11 so we can't accept to substitute as proposed below.

Marc Bellavance
Technical/Shop Support
T. 613-632-5200 | C. 613-
676-0992 | F. 613-632-
9311

1270 Aberdeen Street,
Hawkesbury, Ontario,
Canada, K6A 2K7

Product Documentation:
Verify Revision
Status/Download [HERE!](#)

<image001.jpg>

<image002.png> <image003.png> <image004.png> <image005.png>

The information contained in this transmission is privileged and confidential and intended only for the use of the individual or entity to whom it is addressed. If you are not the intended recipient, you are hereby notified that any distribution, copying, disclosure or taking of any action in reliance on the contents of this transmission is strictly prohibited and review by any individual other than the intended recipient shall not constitute waiver of privilege. If you have received this transmission in error, please notify us immediately and delete the original transmission.



Please consider your environmental responsibility before printing this e-mail.

From: Chantal Lavoie [<mailto:clavoie@dartaero.com>]
Sent: Monday, September 10, 2012 2:39 PM
To: Marc Bellavance
Cc: Lacelle, Linda
Subject: FW: 17814

Hi Marc,
Please see attached for p/o:17814, material line 5 and 7 is spec's QQ-A-250-12 acceptable.
Thanks
Chantal

From: Ivers, Stan [<mailto:Stan.Ivers@thyssenkrupp.com>]
Sent: September 10, 2012 1:41 PM
To: 'Chantal Lavoie'
Subject: RE: 17814

Items 5-7 QQ-A- 250-12 is what was quoted please advise will order items 2-4

Thank you

Regards

Stan Ivers
Inside Sales Rep
ThyssenKrupp material NA
905-532-1350
30shi@tkmna.com

From: Chantal Lavoie [<mailto:clavoie@dartaero.com>]
Sent: Monday, September 10, 2012 12:31 PM
To: Ivers, Stan
Subject: RE: 17814

Sorry Stan,
I add send you this order last week please order.
Thanks
Chantal

From: Ivers, Stan [<mailto:Stan.Ivers@thyssenkrupp.com>]
Sent: September 10, 2012 8:07 AM
To: 'Chantal Lavoie'
Subject: 17814

Good morning Chantal

Please advise status on this p.o as nothing is on order and will miss delivery dates

Thanks

Regards

Stan Ivers
Inside Sales Rep
ThyssenKrupp material NA
905-532-1350
30shi@tkmna.com



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO36731**

Purchase Order Date 6/16/2017

PO Print Date 6/28/2017

Page Number 4 of 16

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

7	159850	646.3716 GAUGE BRACKET REV. A	7/7/2017	26.00	\$6.15	\$159.90
			Yes 7/7/2017			

AS PER MPP-172 SECTION 2.1,
HARD ANODIZE COLOR BLACK, PER IAW MIL-A-8625 TYPE 3 CLASS 2
AS PER MPP-172 SECTION 4.2,
PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$159.90

8	160765	646.9810 DEFLECTOR REV. A	7/7/2017	4.00	\$47.25	\$189.00
			Yes 7/7/2017			

AS PER MPP-172 SECTION 2.1,
HARD ANODIZE COLOR BLACK, PER IAW MIL-A-8625 TYPE 3 CLASS 2
AS PER MPP-172 SECTION 4.2,
PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total: \$189.00

9	160478	646.9710 BODY REV. D	7/7/2017	9.00	\$14.50	\$130.50
			Yes 7/7/2017			

AS PER MPP-172 SECTION 2.1,
HARD ANODIZE COLOR BLACK, PER IAW MIL-A-8625 TYPE 3 CLASS 2

DAS
38
9-89

DAS
26
9-89

JUL 10 2017

PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

6/28/2017



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913504

Date: 07-Jul-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.			
4 ea	Part: 646.3312 Center Plate Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 21228	Rev: N/C PO: PO36731 Line: 5	
9 ea	Part: 646.9710 Body Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Job: 21232	Rev: D PO: PO36731 Line: 9	DAS 38 9-89
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>07/07/2017</u> Certified Signature: <u>[Signature]</u> Receiver Signature: <u>DAS 26 9-89</u> JUL 10 2017 A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
Made in Canada.			